United States
Department of the Interior
Bureau of Land Management

BLM

Environmental Assessment

DOI-BLM-UT-G020-2011-0015-EA

UTU88257

Kimmerle
Green River #9

August 2011

Location:

T. 21 S., R 14 E., Sections 22
Emery County, Utah

Applicant Address:

Kimmerle LLC.
2056 Plateau Drive
Moab, Utah 84532

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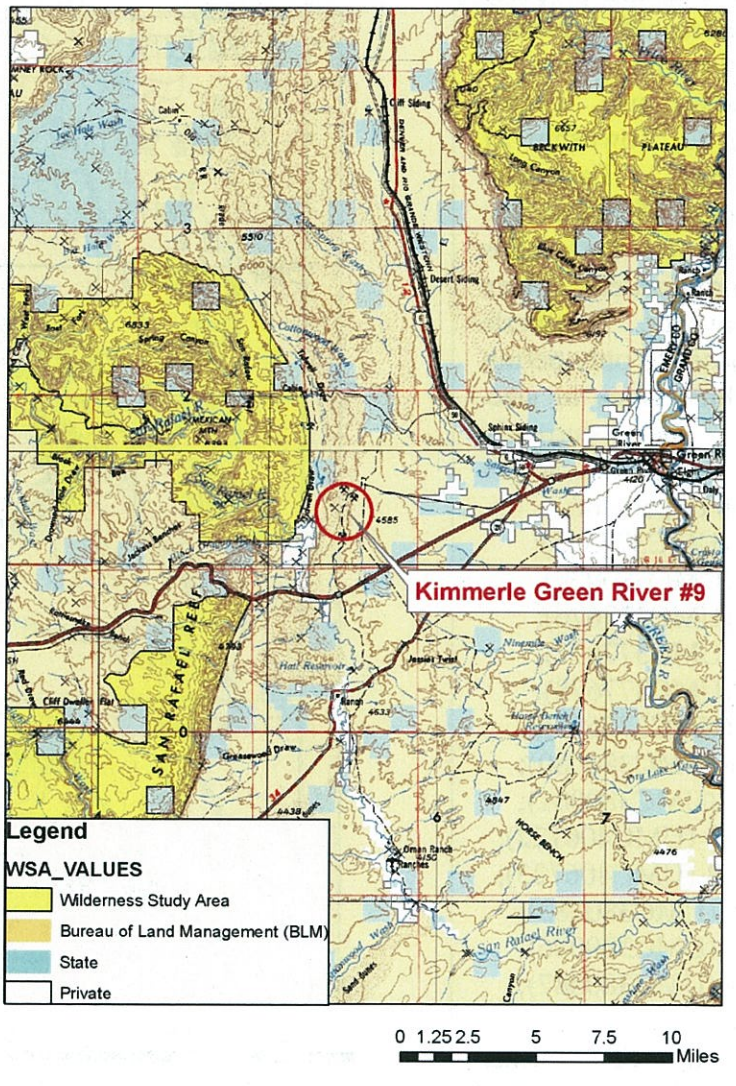
Kimmerle Green River #9

1.0 PURPOSE AND NEED

1.1 Introduction

Kimmerle Green River #9
Figure 1 Small-Scale Location Map-1



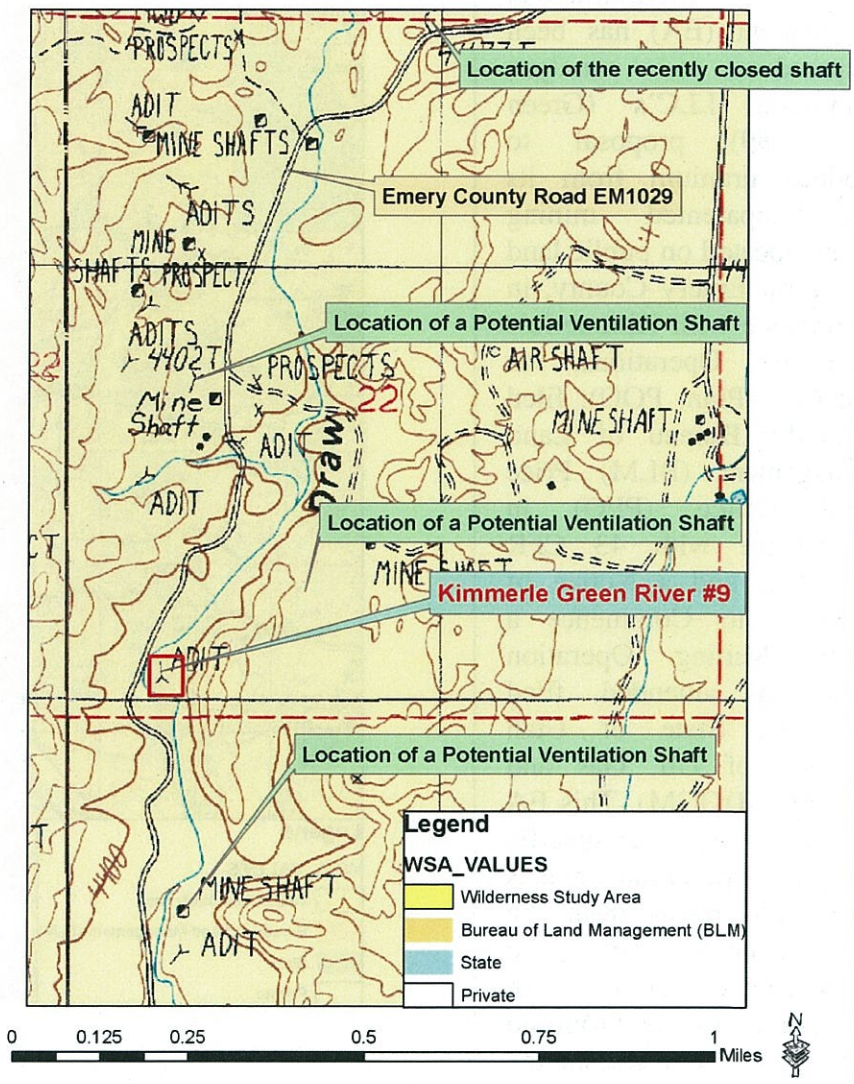
This Environmental Assessment (EA) has been prepared to analyze Kimmerle LLC's (Green River #9) proposal to produce uranium from its five unpatented mining claims located on public land in central Emery County, in accordance with Kimmerle's Plan of Operations, as amended (Plan, POO), filed with the Bureau of Land Management (BLM) Price Field Office (PFO) in compliance with 43 CFR 3809.401, and a Notice of Intention to Commence a Small Mining Operation (NOI), as amended, filed with the State of Utah Division of Oil, Gas and Mining (UDOGM). This EA includes a site-specific analysis of potential impacts that could result from the implementation of the Proposed Action or alternatives to the Proposed Action. The EA assists the BLM in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and in making a determination as to whether any "significant" impacts could result from the analyzed actions. "Significance" is defined by the Council on Environmental Quality (CEQ) and is found at 40 CFR 1508.27. An EA provides evidence for determining whether to prepare an Environmental Impact Statement (EIS) or a statement of "Finding of No Significant Impact" (FONSI). A Decision Record (DR), and FONSI statement identify the decision and rationale for the decision and briefly present the reasons why implementation of the proposed action would not result in "significant" environmental impacts (effects) beyond those already addressed in the Price Field Office Approved Resource Management Plan (RMP) (BLM 2008). If the decision maker determines that this project has

"significant" impacts following the analysis in the EA, then an EIS would be prepared for the project. If not, a DR may be signed approving the alternative selected.

1.2 Background

Kimmerle LLC has properly located and recorded thirteen unpatented mining claims in the immediate area, located in section 22, Township 21 South, Range 14 East, Salt Lake Principal Meridian. The surface area for the claims totals approximately fifteen acres; however, Kimmerle LLC proposes to only permit an area three acres in size, including the currently disturbed area and access road, on all or parts of:
8-Ball #5 (UMC375545);
Big G #4 (UMC380079);
Big G #5 (UMC377676);
Big G #6 (UMC377677);
Big G #7 (UMC377678);
Big G #8 (UMC377679);
Big G #11 (UMC380080);
Big G #12 (UMC380081);
Big G #13B (UMC406722);
Big G #14B (UMC406723);
Big G #15 (UMC380083);
Big G #18 (UMC380086);
Big G #19 (UMC380087);

Figure 2 Kimmerle Green River #9 Location Map-2



Development of further operations would be based on the uniform quality of the uranium and future markets. Any new operations outside of this three-acre area would require the submittal of a new Plan of Operations.

Mining operations began in the late 1940's and operated off and on until 1985. Waste material was not put back into the mine but was left on the surface creating the hummocky landscape seen today. The waste-piles have developed some plant cover, but for the most part are barren with less than 25% cover when compared to non-disturbed areas.

A radiation survey was completed in March 2009 using a BLM Geiger counter. Readings were low, less than 380 uR/hr, for the entire area surveyed; most readings were below 200 uR/hr; area background readings are approximately 10 uR/hr. A map of the radiation survey is attached in Appendix C.

1.3 Need for the Proposed Action

The need for the action is to allow Kimmerle LLC develop its federal unpatented load mining claims: 8-Ball #5; Big G #4; Big G #6-8. Kimmerle LLC has submitted a Plan of Operations to the BLM Price Field Office pursuant to 43 CFR 3809.401.

1.4 Purpose of the Proposed Action

The BLM is considering approval of the proposed mine plan to comply with the General Mining Law of 1872 as amended and the Federal Land Policy and Management Act of 1976 (FLPMA), which recognize the statutory right of mining claimants to develop locatable mineral resources (e.g., uranium) and prevents "unnecessary or undue degradation (UUD) of public lands by operations authorized by the mining laws. Anyone intending to develop mineral resources on public lands must prevent unnecessary or undue degradation of the land and reclaim disturbed areas. This subpart establishes procedures and standards to ensure that operators and mining claimants meet the responsibility" (43 CFR 3809.1).

1.5 Conformance with BLM Land Use Plans

Under the Price Field Office RMP the land in question is open for location. A goal of the RMP, as stated on page 123, is to, "Provide opportunities for mineral exploration and development under the mining and mineral leasing laws subject to legal requirements to protect other resource values," and, "Provide mineral materials needed for community and economic purposes." Management Decision MLO-3 states: "Locatable minerals will be managed according to the 43 CFR 3809 Surface Management regulations and 43 CFR 3715 Use and Occupancy regulations.

1.6 Relationship to Statutes, Regulations, or other Plans

The proposed development would be in accordance with the General Mining Law of 1872 as amended, 43 CFR 3715 (Use and Occupancy Under the Mining Laws) and 43 CFR 3809 (Surface Management Regulations). Under these authorities, Kimmerle LLC has the right to stake a claim and submit a mining Plan of Operations to mine uranium. The operation would be required to conform to Utah Administrative Code Rule R647-4 Small Mining Operations and a mining permit would be obtained from UDOGM, as part of the approval of this mining proposal. This project would be consistent with various federal, state, and local laws and regulations related to the commercial development of natural resources, including appropriate acquisition of required permits and easements.

The land on which Kimmerle LLC proposes to operate is managed by the BLM (Figure 1) and zoned by Emery County as MG-1, (Mining and Grazing). The classification specifically encourages mining (Article IX, §9-4-1, Zoning Ordinance for Emery County, Utah).

A separate right-of-way permit will be obtained from Emery County in connection with the proposed operation for the use of County Road EM-1029 to access the site.

1.7 Identification of Issues

Public notice of Kimmerle LLC's proposal was posted on the Utah BLM Environmental Notification Bulletin Board (ENBB) on January 12, 2011. During the months of July and August 2011, the Price Field Office engaged in several internal scoping meetings with the interdisciplinary team listed in Appendix A to identify issues and help Kimmerle LLC refine their proposal minimize potential effects and eliminate unnecessary surface disturbances. Appendix A, the Interdisciplinary Team (IDT) Checklist, documents the relevant issues requiring detailed analysis within this EA based on issues identified during these scoping efforts. Listed below are the issues brought forward for analysis.

1.7.1 Invasive, Non-native Species

Invasive, non-native species dominate the area. Current inventory shows no presences of noxious weed infestations within the project area. Implementation of the Proposed Action could result in the spread of invasive, non-native and the introduction of noxious species.

1.7.2 Vegetation

Even in its pre-mining natural condition, the project area would be sparsely vegetated; however, the proposed project area has already been disturbed from mining activities conducted in the 1950's and exposed piles of mine waste are even less capable of establishing vegetation. Thus, vegetation is very minimal and without implementation of an approved reclamation plan, vegetation loss could be long lasting.

1.7.3 Soil

Native soils are inherently highly erodible and with the elimination of vegetation on waste piles, erosion could be accelerated.

1.7.4 Surface Hydrology

The mine operation has an ephemeral stream bisecting the project area. Though ephemeral, the drainage has the potential to accelerate heavy metal transport to perennial drainages. Groundwater is estimated to be encountered at 4,200 feet above mean sea level or approximately 100-feet bgs.

1.8 Summary

This chapter has presented the purpose of and need for the proposed project, as well as the relevant issues, i.e., those elements of the human environment that could be affected by the implementation of the proposed

project. The Proposed Action, a No Action, and a Preferred Action alternative are presented in Chapter 2. The potential environmental impacts or consequences resulting from the implementation of each alternative are then analyzed in Chapter 4 for each of the identified issues.

2.0 DESCRIPTION OF ALTERNATIVES, INCLUDING PROPOSED ACTION

2.1 Introduction

This chapter presents Kimmerle LLC's Proposed Action, as submitted to the BLM Price Field Office. BLM resource specialists reviewed the Proposed Action and assessed the type and magnitude of potential impacts. Based on this review, the BLM developed the following alternatives for analysis in this EA:

- Alternative A - Proposed Action: This alternative includes the action formally proposed by Kimmerle LLC to develop uranium resources.

- Alternative B - No Action Alternative: Analysis of this alternative is required by CEQ regulations, 40 CFR 1502.14.

These alternatives are discussed in this chapter 2. There were no other alternatives that were considered and eliminated from detailed analysis.

2.2 Alternative A - Proposed Action

2.2.1 General Mining Operations

The complete Kimmerle LLC Green River #9 Plan of Operations submittal is attached in Appendix D; an abbreviated Plan of Operations follows:

Access
The project area is located west of Green River, Utah and can be accessed by two routes. The primary route from Green River is as follows: travel approximately 12 miles west on I-70 and exit at mile marker 149, then turn north onto Emery County Road EM1029. Next, drive approximately 3.5 miles north. The project area is located on the east side of the road and can be identified by the presence of two used fuel tanks, drive way, and visible adit entrance. Figure 2 shows the access roads and local terrain.

Surface Operations
The proposed surface operation would occupy most of three acres. The subsurface would be accessed via an existing adit. Waste materials would be deposited on existing waste piles; and based on the projected annual production of 7,200 tons of ore, and estimated reserves of 35, 000 tons, the mine-life is anticipated to be approximately 5 years but may be longer depending on market values. Ore will be transported to the White Mesa Mill on an as-needed basis. Mining rates are market driven and if metal values decrease the life-span of the mine could be extended indefinitely. Both the surface and subsurface will be overseen by MSHA (Mine Safety and Health Administration).

Several ventilation shafts are proposed. The first shaft, located approximately 1200 feet north is already present and can be identified by the rubble surrounding the hole. It will be secured and screened as necessary to protect the structure and prevent rocks from falling to the mine floor. A second ventilation shaft may be drilled also located to the north. It is located approximately 2,400 feet north of the Site adit and is shown on Figure 2. This shaft will be located on existing mining claim Big G #6, be 65- to 70 feet deep, and approximately 17-inches in diameter. If production necessitates the use of a second air-shaft, a shaft will be drilled into waste material stockpiled from historic operations at the location shown on Figure 2, then protected and screened. A third shaft, which is also already present and shown on Figure 2, may be utilized in the future and is located to the south.

Subsurface Operations

Subsurface operations will consist of room and pillar techniques; no surface mining will occur. Ore concentrations are anticipated to be between 0.1% to 1.0% uranium and 0.15% to 1.5% vanadium. It is anticipated that crews of 1 to 5 workers will be utilized on an as-need basis.

The operation is anticipating the use of:

- 2 subsurface vehicles (diesel) (rubber tired skid steer loader, 5-ton rubber-tired ore buggy)
- 1 contracted diesel truck and trailer for haulage
- 1 trailer-bunkhouse
- 1 compressor with hoses for pneumatic power tools
- 1 fan for air circulation
- 1 gas generator for electric tools and lighting
- 1 diesel storage tank
- 1 munitions box with explosives
- 1 portable toilet
- 1 leg-jack drill

Ore will be hauled to the surface and stockpiled until there is a sufficient amount to justify transport to the White Mesa Mill. Waste rock will be brought to the surface and placed on existing waste piles. It is anticipated that waste will be stockpiled on the western and southern aspects of the Project Area, and the area east and north of the adit will not be utilized. Waste material will not be placed adjacent to the adit entrance on either the eastern or western aspects to minimize the depth of the adit entrance and to keep material from falling into the decline.

Petroleum Products

Fuel use is anticipated to be 30 gallons/day. Best Management Practices will be utilized regarding the use and storage of petroleum products. All petroleum waste products will be transported off-site and disposed of as regulated—no waste oil or petroleum maintenance products will be released onto the ground surface. Any necessary oils, cleaning solvents, grease, or other supplies will be safely stored in MSHA/OSHA approved containers in a secure underground location. If equipment is stationed at the surface, such as a generator or compressor, the equipment will be placed upon an impervious platform or containment structure, as a backup, in case of an unexpected discharge. The diesel storage tank will have a shallow berm placed below the tank capable of controlling a potential spill of 100% of the fuel tank volume and an impermeable plastic liner installed.

2.2.2 Water Management

Subsurface Water Management

Water will be utilized in the mining process. Though the mine level is generally above the water table, the lower portions of the mine stores water that has entered through surface structures: entrance adit, air vents and joints in the overlying rock strata. Water standing in the lower parts of the mine will be pumped into tanks and stored below ground. When necessary this water will be used for dust control and for drilling purposes. If water is not available from the lower mine areas, it will be hauled in from Green River or Moab, Utah. Water from the mine will not be discharged to the surface. There will be no analytical testing or monitoring of this water.

Surface Water Management

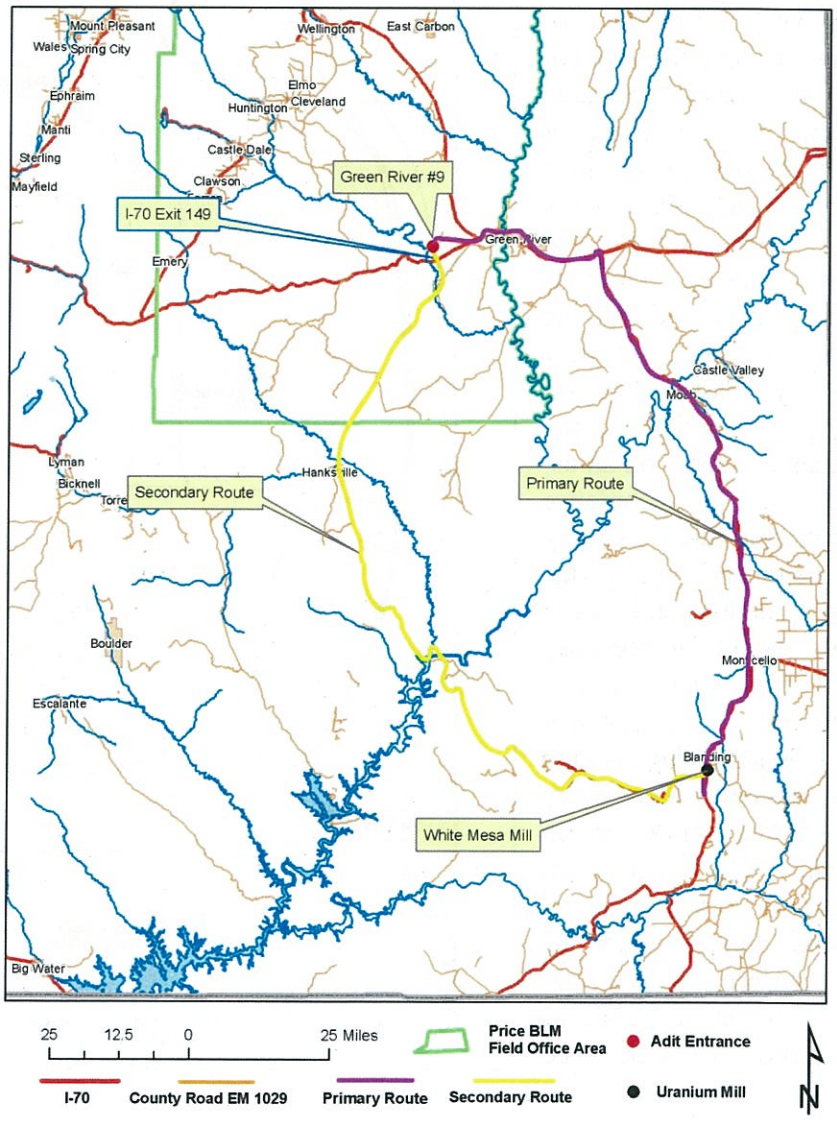
The surficial ore piles will be bermed such that any run-off will be captured and not allowed into the local drainage. If necessary, a culvert will be put in place to facilitate surficial drainage through the project area.

2.2.3 Product Haulage

Ore haulage would occur sporadically and be transported in twenty-eight-ton capacity semi tractor-trailers. Ore will be stockpiled on-site until there is a sufficient quantity to justify 10 to 30 loads. For calculation purposes, the projected production and transfer rate, on average, would be 250 roundtrips per year between the mine and the uranium mill located near Blanding, Utah. Because trucking of ore material will be done sporadically, haul trucks would be washed before being brought on site if they have been utilized by another company in between loads, and washed by a to-be-determined company in Green River, Utah.

No road improvements are anticipated by either Kimmerle LLC or Emery County specifically for this

Figure 3 Trucking Route Map for Kimmerle Green River #9



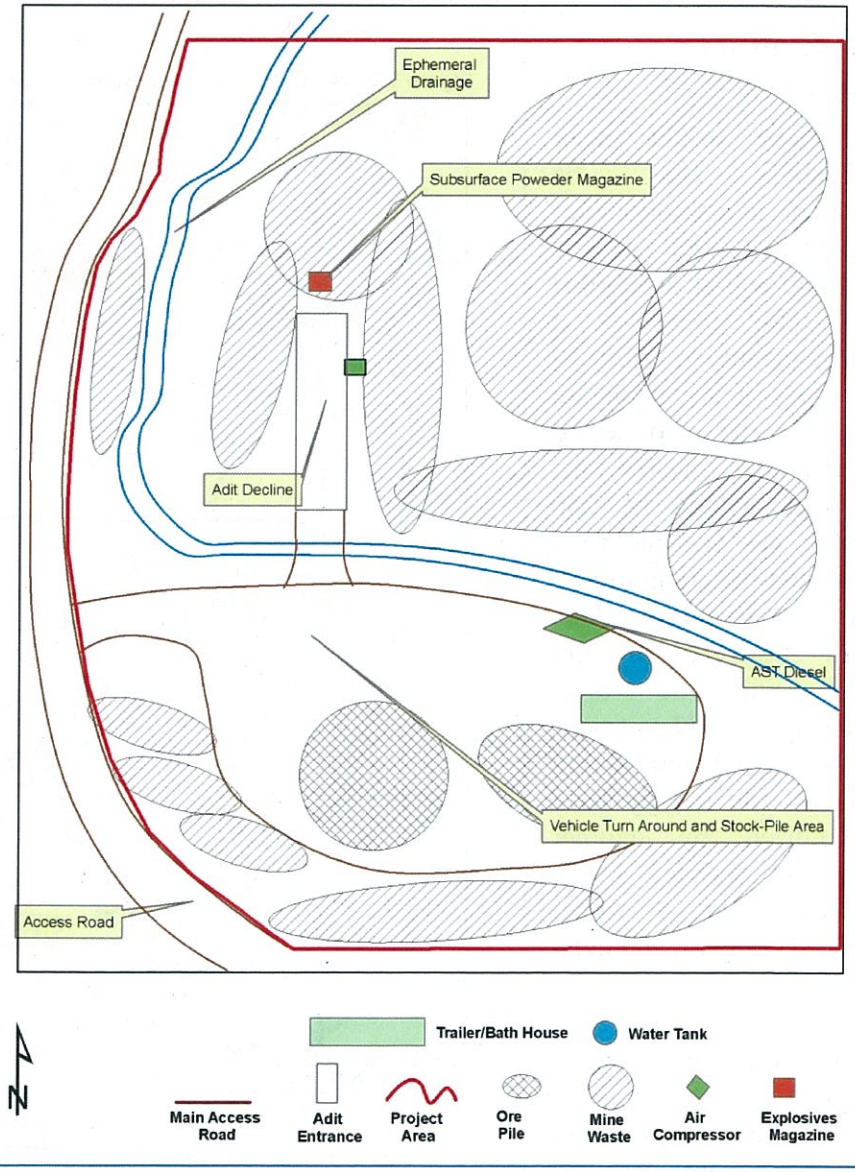
traffic, which would continue to be governed by the terms and conditions of annual haul permits issued by Emery County. Permits to carry low-grade radioactive material on state highways will be obtained from Utah Department of Transportation.

Two county road routes would be permitted by Emery County to enable haulage to Interstate I-70. The secondary route leads directly south to I-70 and the primary route utilizing EM-1029 and intersects Utah Highway 6. From I-70 there are two proposed ore transportation routes to the only uranium mill in the region, White Mesa Mill, located in Blanding, Utah (Figure 3). The primary route is approximately 165 miles one-way, utilizing Utah State Highway 163; the secondary route, Utah State Highway 24, is over 175 miles one-way. In the event that the primary road is closed or compromised, the secondary route would be taken. County road use during adverse weather would continue to be subject to the stipulations in the Emery County permit.

2.2.4 Site Maintenance

Figure 4, an idealized site development plan, illustrates the probable locations of equipment to be utilized at the site. A commercial portable toilet and a trash container would be located in the mine stockpile area. The toilet holding tank would be regularly pumped and its contents disposed of at an authorized facility in Emery County by Castle Country Pumping or similar to-be-determined company on an as-needed basis in accordance with applicable rules regarding sewage treatment and disposal. All trash, debris and waste materials would be regularly removed from the site and disposed of in a certified landfill. General site cleanup would continue to occur every day that the mine is in operation. No petroleum products or toxic material would be drained onto the ground surface. Waste oil, lubricants, toxic material, or contaminated soil would be

Figure 4 Kimmerle Green River #9 Plan of Operations



removed from the site and disposed of at an approved facility in Emery County, Utah on an as-needed basis. For the purposes of analysis, it is assumed that disposal of all waste products would require approximately one vehicle round-trip per week.

Dynamite and associated equipment will be contained in a locked box underground. No explosives or detonation chord will be stored above-ground.

2.2.5 Reclamation

Project reclamation consists of six phases: 1) the Site would have a second radiation survey conducted and remove surficial material over previously identified thresholds; 2) remove all equipment, machinery and surface structures; 3) close the adit entrance; 4) re-contour the project area, 5) reseed; and 6) monitor vegetation growth until reclamation has been deemed complete by the BLM and UDOGM.

A second gamma radiation map will be created and compared to pre-mining concentrations; any area found to have higher gamma readings after mining activities will be excavated, taken to the subsurface or to White Mesa for milling.

Before mining activities begin the project area would be photographed, then prior to contouring, the photos would be reviewed to assure that the utilized areas are returned to the approximate natural contour.

Machinery and any products brought onto the Project Area will be removed. Unless this is a temporary closure, all subsurface equipment and munitions will be removed from the premises as well.

The adit entrance would be closed with an approved BLM/UDOGM closure; and with the adit's close proximity to a major county road, the decline will also be filled in with mine waste to eliminate potential ATV accidents.

Because the soil is minimal, scattered, and generally lying directly upon 10-feet high conical waste piles that are not easily removed or segregated, there will be no attempt to further separate topsoil from the waste piles for later reclamation purposes. The waste piles will be recontoured to approximate the pre-mining landscape and any modifications to the unnamed ephemeral stream will be corrected. If a culvert is installed it will be removed at the end of operations. The minimal soil that is stockpiled from past operations will be scattered, the area recontoured, and all high-walls brought down to less than a 2:1 slope. The site will be scarified, leaving a pock marked or dimpled surface.

Seeding would be performed in the fall (between September 1 and December 30, depending on moisture conditions), with the BLM approved seed mixture shown in **Table 1** below. Finally, the site would be monitored until BLM and UDOGM concur that vegetation has been established to acceptable thresholds.

Table 1. Project Seed Mix			
Common Name	**Scientific name**	**Preferred Variety**	**Pounds PLS/Acre**
GRASSES			
Galleta grass	*Hilaria jamesii*		3.0
Indian ricegrass	*Achnatherum hymenoides*		3.0
Bottlebrush Squirreltail	Sitanion hystrix		1.5
FORBS			
Palmer penstemon	*Penstemon palmeri*		0.3
Scarlet globemallow	*Sphaeralcea coccinea*		0.3
SHRUBS			
Forage kochia	*Kochia prostrata*		0.5
Winterfat	*Ceratoides lanata*		2.5
		TOTAL	11.1

Site reclamation would not be accepted by the BLM and UDOGM and the financial surety would not be released until vegetation within the reclaimed mine site is established to an acceptable level: the BLM requires 75% basal cover of the surrounding native area.

2.3 Alternative B – No Action

Under the No Action Alternative, the Proposed Action would not be implemented. If future mining would be proposed in the Buckmaster Draw area, those actions would be subject to further NEPA analysis. Until further mining actions occur, the uranium resource will not be utilized.

3.0 AFFECTED ENVIRONMENT

3.1 Introduction

This chapter presents the potentially affected environment (i.e., the physical, biological, social, and economic values and resources) of the Kimmerle Green River #9 Mine project area, and provides the baseline for comparison of impacts/consequences described in Chapter 4.

3.2 General Setting

The Green River #9 Mine area is located at T. 21 S, R. 14 E., section 22, Emery County, Utah. The project is best accessed from Green River, Utah (Figure 1). The mining claims and proposed land disturbances lie on Bureau of Land Management (BLM) administered land (Figure 2) and not within any BLM specified ACEC (Areas of Critical environmental Concern) or wilderness study area. The ore body is located in the lower conglomeritic gravels of the Salt Wash Member of the Morrison Formation and would be mined using traditional sub-surface techniques; the mine will not be an open-pit strip-mine.

Locally the project area is in the far eastern part the San Rafael Swell, though just outside of the major defining hogbacks. The Green River #9 Mine lies between the prominent hogbacks and canyons of the San Rafael Swell to the west and the drainages and related escarpments of the Green River Desert to the east, with the more dramatic escarpment of the central Book Cliffs further east. Elevations within the project area range from about 4,400 feet above sea level to about 4,420 feet above sea level for a total relief of approximately 20 feet. The average daily maximum temperature in the San Rafael Swell is 63°F with maximum yearly extremes ranging from -25°F to 110°F; average annual precipitation is approximately 7.9 inches with the majority of precipitation coming between the months of May and September. Vegetation present on the project area is typified by arid to semi-arid species, with several varieties of cactus, sagebrush, Mormon tea, rubber rabbitbrush, and broom snakeweed, as well as Indian ricegrass and other native grasses. A substantial portion of the area consists of bare sandstone and waste material that are essentially devoid of vegetation.

The first mining in the San Rafael Swell area was by Native Americans inhabiting the area prior to European contact. The uranium-vanadium ores were used to make bright colored pastes that were applied as war paint. In 1871 Dr. Richard Pearce identified the ore and developed a number of small uranium mines. Sorenson, in his 1963 publication *Wonder Mineral: Utah's Uranium*, notes that, "Ores recovered from these mines were shipped overseas and used as dye colorant, in the manufacture of glass, pottery, and steel plate, and for photographic experimentation." As early as 1898 uranium claims were being staked in Emery County but these claims were in more organized mining districts such as the Temple Mountain Mining District. There was no clearly organized mining district associated with the San Rafael Swell and many of the deposits were discovered accidently by ranchers moving livestock through the area. By 1906 the San Rafael Swell area was producing about 200,000 tons of ore annually with most of it going to Germany to be used in medical treatments and for radium research. Serious prospecting in the San Rafael Swell area began in 1948-49 with 910 claims filed in Emery County. The number of claims filed during the period from 1950 to 1956 eventually exceeded 50,000. Although a few significant claims were identified, such as the Delta-Hidden Splendor mine that sold for $9 million

dollars in 1954, most of the mines are small in scale with little marketable ore being produced. The 1960's saw a virtual end to further exploration work with only a few claims remaining active into the 1980's (BLM, 2010).

The Kimmerle LLC Green River #9 mine site operated up until 1985. Between 1985 and 2010 no mining or exploration occurred. In 2010, Kimmerle LLC submitted a Notice for Exploration which was approved by the Price Field Office authorizing the testing and extraction of up to 1000 cubic yards of material. Kimmerle LLC has documented receipts from the White Mesa Mill indicating that the exploration has proved successful and intends on mining the reserves at this site.

3.3 Resources/Issues Brought Forward for Analysis

The resources that are analyzed in detail in this chapter are: Invasive, Non-native Plant Species; Vegetation, Surface Hydrology, and Soil. Resources dismissed from further analysis after site examination are set forth in the IDT Checklist, Appendix A of this document. These resources and issues were dismissed without further review because they are not present or because the alternatives would have no measurable negative effect on the resource or issue.

3.3.1 Invasive, Non-native Plant Species

Invasive species occur within the project area. Downy brome (cheatgrass), Halogeton and other annual weeds are common along roadsides and on other disturbed areas. Other noxious weeds species are not currently found within the project area, however, could be introduced into the area during mining activities by machinery/vehicle traffic, foot traffic, and livestock/wildlife movement.

Previously disturbed areas around the mine sites have naturally re-vegetated with native vegetation. However, small infestations of cheatgrass and halogeton occur in most mine site locations within the project area. The infestations have a potential to become a seed source to expand onto newly disturbed areas.

3.3.2 Vegetation

Vegetation present on the project area is typified by arid to semi-arid species, with several varieties of cactus, Shadscale, Mormon tea, broom snakeweed, as well as Indian Ricegrass, other native grasses, and salt desert shrubs. A substantial portion of the area consists of bare sandstone and mine-waste material that have limited amounts of vegetation. The vegetation present does limit soil erosion and protects the developing biological crusts.

3.3.3 Soil

Most soils in the area are rated moderately to highly erodible. Four major map units occur within the project area. The map units are complexes, which means the map units consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat

similar in each map unit. Therefore on-site evaluation is necessary to determine the actual soil type (BLM, 1986).

The four major soil map units in the area are shown in Table 2 with their associated percent Area of Interest. For the results below an area of approximately 50 acres in size circumnavigating the proposed Kimmerle Green River #9 proposal was identified using the NRCS's Web Soil Survey tool (http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm). The soil in the area is classified as Robroost-Mussentuchit association soil by the natural Resource Conservation Service.

Table 2 Soil Types Associated with the Kimmerle Green River #9 Proposal

Map Symbol	Map Unit Name	Percent of AOI
492	Hadden-Casmos-Greybull complex, 2 to 15 percent slopes	0.2%
H90	Rock outcrop-Farb complex, 3 to 45 percent slopes	41.1%
PWE2	Persayo-Casmos-Badland complex, 3 to 30 percent slopes	53.9%
RAD3	Tsaya-Pennell-Farb complex, 3 to 25 percent slopes	4.8%
Subtotals for Soil Survey Area		100.0%

Waste material will be stockpiled and consist of sand, silt, gravel, and clay derived from the Morrison Formation and have no soil structure. The material will be dense (density > 2.5g/cm^3), porous, and a poor medium for vegetation.

3.3.4 Surface Hydrology

The Project Area is bisected by an un-named ephemeral stream (See Figure 4). The stream-bed originates north of the site, runs north-south in a braided stream pattern, enters the Project Area within 25 feet of the road, and runs south several hundred feet parallel to both the road and the adit before turning east. It crosses the Project Area just south of the adit decline and perpendicular to it. It continues east for several hundred feet and then turns south as it exits the Project Area. The drainage has the potential to transport alluvial material and contaminants off-site with rapidity during flash-flood events.

4.0 ENVIRONMENTAL IMPACTS

This chapter provides an analysis of the environmental consequences of implementing the Proposed Action and the No Action Alternative. The analysis in this chapter assumes the alternatives would be implemented as described in Chapter 2.

4.1 Alternative A – Proposed Action

Direct impacts are defined as effects that are caused by the action and occur at the same time and/or place (40CFR 1508.8). Indirect impacts are effects caused by the action, but are later in time and/or place. The potential direct and indirect impacts from the Proposed Action and the No Action Alternative are discussed in the following sections of Chapter 4.

4.1.1 Invasive, Non-native Species

The surface disturbing activities involved would create a favorable environment for invasive species to spread and noxious weed species to become established. Construction equipment and any other vehicles and equipment brought onto the site can introduce weed species. Wind, recreation vehicles, livestock and wildlife movement could also be vectors for weed dispersal. The existing infestations could occupy the disturbed areas created by the proposed project. The bare soils and the lack of competition from a sparse perennial plant community could allow these weed species to grow unchecked. Since vegetation and weed growth would be limited, any establishment of biennial and perennial noxious weeds that occurs would be easily detected.

Limited soil disturbance would reduce wide-spread expansion of invasive species that are currently within the plant community. Limited disturbance would also reduce the potential for other invasive, non-native or noxious weed species to become established.

All principles of Integrated Pest Management should be employed to control noxious weeds on public lands including the use of equipment that is free of noxious weed seeds. Reclamation efforts in the sparsely vegetated project area have limited success.

Mitigation Measures:
It is recommended that areas of disturbance over 0.5 acres (20,000 square feet) be reclaimed through recontouring, scarification and site specific seed application to allow for better seedling establishment. The project area should be monitored for a minimum 5 year period to determine if State and County listed noxious weeds become established. Appropriate management action would be taken to control or eliminate any noxious weed infestations that become established in the project area.

4.1.2 Vegetation

Loss of native vegetation (grasses, forbs and shrubs) would occur in the area impacted by mining activities. At present less than 15% of the three acre area has vegetation growing on it, and mining activities could reduce it by 50%. With this proposal the mine site and potential road disturbances may not be reclaimed for several years, possibly 15 years or more, thus allowing ample time for invasive species such as annual wheat *(Eremopyrum triticeum)* and halogeton (*Halogeton glomeratus*) to establish. The establishment of these invasive plants could potentially spread to other disturbed mining areas.

4.1.3 Soil

The proposal states that up to three acres of disturbed land would be reclaimed when the mining and associated activities of the project are complete, potentially leaving the ground bare for many growing seasons. In the area soils are highly erodible; the addition of an unknown quantity of waste material is also erodible; and if a heavy precipitation event were to occur, there would be soil and sediment loss.

Soil, and ultimately plant growth would be negatively affected by compacting soils along access routes and waste-pile sites.

4.1.4 Surface Hydrology

The Project Area has an ephemeral drainage traversing the site from north to south and crossing horizontally just south of the adit entrance. This drainage can accommodate the transfer of sediment and heavy metal particulates to a perennial water conduit, the San Rafael River, located approximately 4-miles to the south of the Site. If ore components are introduced into the drainage at the Project Area, additional heavy metal material (principally uranium, vanadium, arsenic, and copper) will be introduced into the drainage connecting to the San Rafael River. The quantity and concentration of heavy metal bearing ore material which could be incorporated into the drainage is not known.

However, current studies in the PFO indicate that heavy metal concentrations in sediment decrease rapidly approaching background concentrations within one mile of the source area. This finding does not apply to dissolved, solutes and colloids.

As mitigation, precautions could be taken to reduce the amount of sediment and heavy metals introduced into the drainage. If the Project Area were bermed to the extent that it would eliminate the escape of fugitive water, and if a culvert were installed that was large enough to accommodate any and all storm-water drainage passing through the Project Area, then the potential impacts to the unnamed ephemeral tributary and San Rafael River would be no more significant than that which occurs naturally. The drainage is already in direct contact with uranium bearing source rocks in the Morrison Formation, and already transports coarse sediments and associated heavy metals.

4.2 Alternative B – No Action

Under the No Action Alternative, Kimmerle Green River #9 would not initiate mining activities. No additional surface disturbance would occur as a result of uranium mining. There would be no product haulage, no additional need for site reclamation; the existing disturbances would not be reclaimed, and the existing mine adit would not be closed. If future uranium mining is proposed in the Buckmaster Draw area, those actions would be subject to further analysis under NEPA.

4.3 Cumulative Impacts Analysis

4.3.1 Cumulative Impacts for Alternative A the Proposed Action

Cumulative impacts are those impacts resulting from the incremental impact of an action when added to other past, present, or reasonably foreseeable actions regardless of what agency or person undertakes such other actions. Additionally, reasonably foreseeable actions could cumulatively affect the same resources. There is no way to quantify the cumulative impacts of these activities, so they are discussed qualitatively.

Past or ongoing actions that affect the same surface resources as the Proposed Action include mining claims, livestock grazing, and recreation (including off-highway vehicle use [OHV]). All mining claims are now abandoned except for the group of claims held by Kimmerle Green River #9 and Carnotite held by Mr. Ted Thompson. The proposed Kimmerle Green River #9 mine, as well as the surrounding area, is contained within the Buckmaster Draw Allotment, which is permitted for cattle grazing use for approximately 859 animal unit months during December through May 15th. Recreational uses in the area include: driving for pleasure, OHV travel, and dispersed camping.

Three mining Plan of Operations have been submitted to the BLM with the intent to mine uranium in the Buckmaster Draw area in the next two years. Mr. Ted Thompson has been authorized to mine two miles south at the Carnotite Mine, and Mr. Kyle Kimmerle has two proposals: Green River #9 and Onisimus. These three mines incorporate approximately eight acres of potential disturbance. No other mining interests have been identified to date; however, if economics allow, uranium exploration in the not-so-immediate vicinity (greater than a 5 miles radius) will expand. In 2008 a large, 200+ boring exploration project was permitted, but has been put on hold because of the depressed economy.

Regional energy and minerals development, and motorized recreation, have the greatest potential for cumulative impacts to the resources in the area.

There are several active mining claims in the immediate vicinity of the project area and the area remains open to location of locatable metals and minerals, leasing of leasable minerals and mineral fuels, or disposal of common variety minerals, all in accordance with applicable statutes. There are known uranium resources that are not within the Kimmerle Green River #9's group of claims and future mineral development is possible.

4.3.1.1 Invasive, Non-native Species

Potential impacts from the Proposed Action, combined with other mineral development, recreational activities including OHV use, livestock grazing, and wildlife movement, could moderately contribute to cumulative impacts of invasive and noxious plants throughout the area. Invasive and noxious weeds in the PFO area typically occur along roadsides and ROWs. Specific negative effects of invasive plants and noxious weeds associated with proposed development in the project area could include 1) reduction in the overall visual character of vegetation in the area; 2) competition with, or elimination of native plants; 3) reduction or fragmentation of wildlife habitats; and 4) increased soil erosion. Invasive plant species would likely continue to expand their distribution within the project area along roadways from surface disturbance and mechanical transport of weed seeds from outside the area as a result of ongoing and reasonably foreseeable mineral development, recreational activities, and associated traffic, livestock grazing, wildlife movement, and rangeland management activities. Plant communities within the project area could be altered by invasive and noxious weed encroachment, possibly changing the community's succession trajectory and composition, if noxious weeds out compete native plants.

Under the Proposed Action, interim and final reclamation would reduce impacts related to the spread of invasive species and the introduction of noxious weeds in disturbed areas.

Furthermore, under Proposed Action, negative effects of invasive and noxious weeds would be reduced through the use of mitigation measures including implementation of an Approved Pesticide Use and Weed Control Plan, and annual weed monitoring.

4.3.1.2 Vegetation

A loss of up to ten acres of native vegetation (grasses, forbs and shrubs) could occur in the area impacted by mining activities. With this proposal the mine site and potential road disturbances will not be reclaimed for approximately fifteen years, thus allowing ample time for invasive species such as annual wheat *(Eremopyrum triticeum)* and halogeton (*Halogeton glomeratus*) to establish. The establishment of these invasive plants could potentially spread to other disturbed mining areas.

4.3.1.3 Soil

Soil, and ultimately plant growth will be negatively affected by compacting soils along access routes and waste-pile sites in the short-term through surface disturbing cumulative actions. Mining in the area has been very extensive and has changed the soil's character in areas measured in square miles. There are two other mining proposals pending in the area (Kimmerle POO and Kimmerle NOI), together totaling less than seven acres of disturbance.

4.3.1.4 Surface Hydrology

The Tidwell-Buckmaster Draw area has been a heavily mined area in the past (1940- 1985). Scores of mines have operated in the area and literally thousands of test borings have been drilled in search of uranium and vanadium minerals. The drainage is naturally in direct contact with the uranium bearing Morrison Formation and ore material is found in both the surface and subsurface contacts. The surficial drainage is in contact with approximately 7,000 acres of Morrison Formation sediments. The ore is lenticular and generally associated with the organic rich conglomeritic sandstones lenses. Therefore, the area is a natural source for heavy metals and especially uranium transport in drainages. Uranium ore (U_3O_8), pitchblende, is considered insoluble (UO_2 and UO_3 demonstrate Ksp values of $10^{-22.46}$ [Fujiwara, K. et.al, 2005]), and has a specific weight of 8.3 g/cm^3 making it harder to transport than average silicate minerals with specific weights approximating 2.65 g/cm^3. Other potential metal contaminants also exhibit low solubilities and high specific weights; the density of As is 5.7 mg/cm^3; solubility as $FeAsO_4$ is $1x10^{-23}$; Cu is 8.9 g/cm3, and as $Cu_3(AsO_4)_2$ the solubility is $7.95x10^{-36}$ (Langmuir et. al, 2006). These chemicals are some of the culprits associated with traditional mine waste damage to plant and animal life; however, they are only hazardous at these concentrations in water.

Published studies of heavy metal transport are not available for this area; however, it can be assumed that if concentrated ore is removed and stockpiled on the surface in increasing amounts, proportionate amounts of heavy metals would find their way into drainages and be transported in periodic flash-flood events. Currently there is one permitted uranium mine in the area (Carnotite LLC) and two more pending. There is the potential to have many more mines open in the area if economic conditions were to improve; however, it is unlikely that more than three would be opened in the near future (5 years). Assuming that each mine utilizes Best Management Practices and inhibits the interaction of ore materials with the hydrology, there would be no additional cumulative effects.

4.3.2 Cumulative Impacts for Alternative B No Action Alternative

4.3.2.1 Invasive, Non-native Species

No cumulative impacts would occur under the No Action Alternative.

4.3.2.2 Vegetation

No cumulative impacts would occur under the No Action Alternative.

4.3.2.3 Soil

No cumulative impacts would occur under the No Action Alternative.

4.3.2.4 Surface Hydrology

No cumulative impacts would occur under the No Action Alternative.

5.0 CONSULTATION AND COORDINATION

5.1 Persons, Groups, and Agencies Consulted

Table 3 includes a list of the agencies and tribes that were consulted during the preparation of this EA. A brief explanation of the purpose of consultation and the results is also included.

Table 3-List of Persons, Agencies, and Organizations Consulted for Purposes of this EA		
Name	**Purpose and Authorities for Consultation and Coordination**	**Findings and Conclusions**
Native American Tribes	Consultation under Section 106 of the National Historic Preservation Act (NHPA)	Letters of notification addressed to the Tribal Nations regarding this proposal were sent June 22, 2011. One response was received, see Table 5 for details.
State Historic Preservation Office (SHPO)	Consultation under Section 106 of the NHPA	The project area is entirely located (100%) on recently disturbed land (post 1980); and no surface disturbing activities are anticipated, eliminating the possibility of disturbing any cultural artifacts that may have been present and rendering it unnecessary to survey for cultural artifacts. Therefore, there will be no impacts to cultural resources. Under BLM's protocol agreement with the Utah SHPO the project is entered into a project log and the project log is sent quarterly to the SHPO. No response from the SHPO is necessary.

5.2 Summary of Public Participation

The public was notified of the proposed action through posting on the ENBB January 12, 2011. During the scoping process no comments were received. A copy of the EA was also posted on the ENBB for a 30 day public comment period which started on August 25, 2011 and ended on September 25, 2011. Consultation with Native American Tribes was initiated on June 22, 2011 with one response as of July 25, 2011, from the Hopi Tribe. As part of a previous uranium project, Mrs. Sarah Fields has also showed interest via email messages, and phone calls.

5.3 Response to Public Comments

Sarah M. Fields sent an e-mail response (4-19-10) after seeing the posting on the ENBB for the Carnotite Mine proposal. As part of her request, the BLM also showed Mrs. Fields the proposed Kimmerle green River #9 project site on June 7, 2011. After the mine tour she concluded: the scale of operations was smaller than anticipated and she had no immediate concerns.

5.4 List of Preparers

A list of BLM preparers who assisted in preparation of this EA is listed in **Table 4** below. A more complete list of individuals who were involved in the NEPA process can be found in Appendix A- IDT Checklist. **Table 5** records the public entities that were consulted.

Table 4 BLM Preparers		
Name	**Title**	**Responsible for the Following Section(s) of this Document**
Chris Conrad	Geologist	Project Lead
Donna Dixon	NEPA Coordinator	NEPA Compliance
Dana Truman	Resource Specialist	Soils and seeding
Karl Ivory	Resource Specialist	Threatened and Endangered Plants
Jeffrey Brower	Hydrologist	Surface Hydrology

Table 5 Public Entities that were Consulted		
Name	**Purpose & Authorities for Consultation or Coordination**	**Findings & Conclusions**
Emery County	Plan Conformance	The Emery County Planning and Zoning Plan endorse the proposal.
Indian Tribes	Consultation as required by the American Indian Religious Freedom Act of 1987 (42 USC 1531) and NHPA (16 USC 1531)	The Tribes want to be kept informed of any cultural information found in conjunction with the proposed project.
Northwestern Band of Shoshone Nation; Chairperson, Ivan Wongan	Consultation as required by the American Indian Religious Freedom Act of 1987 (42 USC 1531) and NHPA (16 USC 1531)	No Response
Northwestern Band of Shoshone Nation; Patty Timbimboo-Madsen	Consultation as required by the American Indian Religious Freedom Act of 1987 (42 USC 1531) and NHPA (16 USC 1531)	No Response
Shoshone-Bannock; Alonzo A. Coby	Consultation as required by the American Indian Religious Freedom Act of 1987 (42 USC 1531) and NHPA (16 USC 1531)	No Response
Paiute Indian Tribe of Utah; Tribal Leader, Ms. Lora Tom	Consultation as required by the American Indian Religious Freedom Act of 1987 (42 USC 1531) and NHPA (16 USC 1531)	No Response
Paiute Indian Tribe of Utah; Cultural Resource Director, Dorena Martineau	Consultation as required by the American Indian Religious Freedom Act of 1987 (42 USC 1531) and NHPA (16 USC 1531)	No Response
Navajo Nation; Preservation Specialist, Marklyn Chee	Consultation as required by the American Indian Religious	No Response

Table 5 Public Entities that were Consulted		
	Freedom Act of 1987 (42 USC 1531) and NHPA (16 USC 1531)	
Shoshone Tribe; Chairman Shoshone Business Council, Ivan Posey	Consultation as required by the American Indian Religious Freedom Act of 1987 (42 USC 1531) and NHPA (16 USC 1531)	No Response
Ute Indian Tribe; Chairman Uintah & Ouray Tribal Business Committee, D. Maxine Natchees	Consultation as required by the American Indian Religious Freedom Act of 1987 (42 USC 1531) and NHPA (16 USC 1531)	No Response
Ute Indian Tribe; Cultural Rights & Protection Director, Betsy Chapoose	Consultation as required by the American Indian Religious Freedom Act of 1987 (42 USC 1531) and NHPA (16 USC 1531)	No Response
Hopi Tribe; Chairman Hopi Tribal Council, Benjamin H. Nuvamsa	Consultation as required by the American Indian Religious Freedom Act of 1987 (42 USC 1531) and NHPA (16 USC 1531)	No Response
Hopi Tribe; Cultural Preservation Office, Leigh Kuwanwisiwma/Marvin Lalo	Consultation as required by the American Indian Religious Freedom Act of 1987 (42 USC 1531) and NHPA (16 USC 1531)	Indicated that they were not in favor of uranium mining. "…it is our position that government and industry are responsible for cleaning up [the] legacy of past uranium mining prior [to] proposing and approving new uranium exploration and mining. We believe the Federal, State and local governments should focus on and address this existing threat to human life, and that Congress should replace the 1872 Mining Law with a Sacred Sites Act and mining law fit for our lives in the 21st Century and into the future. Therefore, we do not support …[the project]"
Southern Ute Tribe; Chairman tribal Council, Clement Frost	Consultation as required by the American Indian Religious Freedom Act of 1987 (42 USC 1531) and NHPA (16 USC 1531)	No Response
Southern Ute Tribe; NAGPRA Coordinator, Neil Cloud	Consultation as required by the American Indian Religious Freedom Act of 1987 (42 USC 1531) and NHPA (16 USC 1531)	No Response
Ute Mountain Tribe; Coordinator, Manuel Hart	Consultation as required by the American Indian Religious Freedom Act of 1987 (42 USC 1531) and NHPA (16 USC 1531)	No Response
Ute Mountain Tribe; Tribal Cultural Representative, Terry Knight	Consultation as required by the American Indian Religious Freedom Act of 1987 (42 USC 1531) and NHPA (16 USC 1531)	No Response

6.0 REFERENCES, GLOSSARY, AND ACRONYMS

6.1 References Cited

BLM, 2010. San Rafael Swell Mining History. Utah Bureau of Land Management State Office, 2010. http://www.blm.gov/ut/st/en/prog/more/Abandoned_Mine_Lands/projects/San_Rafael_Swell.html

BLM, 2008, Price Field Office Record of Decision and Approved Resource Management Plan, U.S. Department of the Interior, Bureau of Land Management.

BLM, 1986. National Science and Technology Center, Tech. Ref. 1730-2.

Emery County Zoning Ordinance E. http://www.emerycounty.com/b&z/zoningmap.htm.

Fujiwara, K; Yamana, H.; Fujii, T.;Kawamota, K.; Sasakit; Moriyama, H. 2005. *Solubility Product of Hexavaent Uranium Hydrous Oxide.* Nuclear Science Technology. http://sciencelinks.jp/j-east/article/200508/000020050805A0286326.php

Langmuir, Donald; Mahoney, John Mahoney; Rowson, John. 2006. Solubility products of amorphous ferric arsenate and crystalline scorodite (FeAsO4.2H2O) and their application to arsenic behavior in buried mine tailings. Geochimica et Cosmochimica Acta. 70. (2006) 294-2956

NRCS's Web Soil Survey Tool (http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm).

Solubility Tables—http://www.ktf-split.hr/periodni/en/abc/kpt.html

6.2 Glossary of Terms

Alpha An alpha is a particle emitted from the nucleus of an atom. It contains two protons and two neutrons and is identical to the nucleus of a Helium atom without the electrons.

Beta A beta is a high speed particle, identical to an electron, which is emitted from the nucleus of an atom.

Gamma Gamma rays are electromagnetic waves or photons emitted from the nucleus (center) of an atom.

Microrems A unit of measure for radiation. The rem is a unit used to derive a quantity called equivalent dose. This relates the absorbed dose in human tissue to the effective biological damage of the radiation. Not all radiation has the same biological effect, even for the same amount of absorbed dose. Equivalent dose is often expressed in terms of thousandths of a rem, or mrem. To determine equivalent dose (rem), you multiply absorbed dose (rad) by a quality factor (Q) that is unique to the type of incident radiation.

6.3 Acronyms

BLM	Bureau of Land Management
BMP	Best Management Practices
CFR	Code of Federal Regulations
DR	Decision Record
EIS	Environmental Impact Statement
FONSI	Finding of No Significant Impact
IDT	Interdisciplinary Team
MSHA	Mine Safety and Health Administration
NOI	Notice of Intent to conduct exploration
NEPA	National Environmental Policy Act
OSHA	Occupational Safety and Health Administration
PFO	Price Field Office
POO	Plan of Operations
SHPO	State Historical Preservation Officer
UDOT	Utah Department of Transportation
UUD	Unnecessary and Undue Degradation

Appendix A ID Team Checklist

INTERDISCIPLINARY TEAM CHECKLIST

Project Title: **Kimmerle Green River #9 Uranium Mining Plan**

NEPA Log Number: **DOI-BLM-UT-G020-2011-0015-EA**

File/Serial Number: **UTU-87377**

Project Leader: **Chris Conrad**

DETERMINATION OF STAFF: (Choose one of the following abbreviated options for the left column)

NP = not present in the area impacted by the proposed or alternative actions
NI = present, but not affected to a degree that detailed analysis is required
PI = present with potential for significant impact analyzed in detail in the EA; or identified in a DNA as requiring further analysis
NC = (DNAs only) actions and impacts not changed from those disclosed in the existing NEPA documents cited in Section C of the DNA form.

Determi-nation	Resource	Rationale for Determination*	Resource Specialist	Date
Resources and Issues Considered (Includes Supplemental Authorities Appendix 1 H-1790-1)				
NI	Air Quality	Fugitive dust created by the mining process and product haulage to the White Mesa mill could result in increased air particulates decreasing air quality for the immediate vicinity of the mine site. No impacts to air quality are anticipated past a 200 foot radius from the adit entrance based on observations from similar operations. The POO suggests that there will be approximately 250 round-trips to the White Mesa Mill and 2000 additional hours of diesel use both underground and on the surface. Because of the limited size and scope of the Proposed Action—impacts would be considered De minimus.	Chris Conrad	7/26/11
NP	Areas of Critical Environmental Concern	There are no Areas of Environmental Concern within the project area.	Tom Gnojek	11/26/11
NI	Cultural Resources	The project area is entirely located (100%) on recently disturbed land (post 1980); and no surface disturbing activities are anticipated, eliminating the possibility of disturbing any cultural artifacts that may have been present and rendering it unnecessary to survey for cultural artifacts. Therefore, there will be no impacts to cultural resources.	Blaine Miller	8/7/2011
NP	Environmental Justice	No minority or low-income populations will be adversely impacted by this project.	Chris Conrad	11/26/11
NP	Farmlands (Prime or Unique)	None present according to BLM soil records and NRCS soil surveys for similar areas.	Dana Truman	7/29/11
NP	Floodplains	Topographic maps and personal reconnaissance indicates that no floodplains are present.	Chris Conrad/Jeffrey Brower OK	7/25/11

Determi-nation	Resource	Rationale for Determination*	Resource Specialist	Date
PI	Invasive, Non-native Species	Invasive, non-native species dominate the area. Current inventory shows no presences of noxious weed infestations within the project area. Implementation of the Proposed Action could result in the spread of invasive, non-native species and the introduction of noxious species.	Karl Ivory	7/25/11
NI	Native American Religious Concerns	Tribal notification has been completed (June 21, 2011) to assist in the identification of any Native American concerns. One response has been received as of July 15, 2011, wherein the Tribe expressed their general disapproval of uranium exploration and mining, but did not express any cultural interests in the site.	Blaine Miller	8/7/2011
NP	Threatened, Endangered or Candidate Plant Species	No T & E or candidate species population or habitat occurs within the proposed disturbance area according to BLM records.	Dana Truman	7/25/11
NP	Threatened, Endangered or Candidate Animal Species	There isn't any designated critical habitat in the area. Based on existing information there are no T&E or candidate species present or potential habitat. Therefore there is no effect on listed animal species.	David L. Waller	7/25/11
NP	Wastes (hazardous or solid)	No chemicals subject to reporting under SARA Title III will be used, produced, stored, transported, or disposed of annually in association with the project. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will be used, produced, stored, transported, or disposed of in association with the project. Trash would be confined in a covered container and disposed of in an approved landfill. No burning of any waste will occur due to this project. Human waste will be disposed of in an appropriate manner in an approved sewage treatment center.	Jeffrey Brower	7/27/11
PI	Water Quality/resources (drinking/ground)	The mine operation has an ephemeral stream bisecting the project area. Though ephemeral, the drainage has the potential to accelerate heavy metal transport to perennial drainages. Groundwater should not be negatively affected because: 1) mining activities, though 65' subsurface will not intersect the groundwater table; and 2) there are no groundwater users in the vicinity.	Jeffrey Brower	7/27/11
NP	Wetlands/Riparian Zones	There are no wetlands or riparian areas in the project area.	Karl Ivory	7/25/11
NP	Wild and Scenic Rivers	There are no Wild and Scenic Rivers within the project area	Tom Gnojek	7/26/11
NP	Wilderness/Wilderness Study Areas/Areas with Wilderness Characteristics	There are no Wilderness Areas, no Wilderness Study Areas, and no Areas with Wilderness Characteristics within a mile of the proposed project area. The nearest WSA is a mile to the west of the Project Area and will not be affected by this project.	Tom Gnojek	7/26/11
Other Resources Concerns				
NI	Rangeland Health Standards and Guidelines	Rangeland Health Standards and Guidelines. The Proposal would have a negligible effect on current rangeland health conditions because the 3 acres for the existing mine site represents only a fraction of 1 percent of the acreage within the Tidwell mining district and the	Ray Jenson	7/27/11

Determi-nation	Resource	Rationale for Determination*	Resource Specialist	Date
		Buckmaster grazing allotment. The site is already disturbed with stockpiles of mine tailing waste from underground workings. The mine waste has poor potential for any successful reclamation efforts because it has little to no organic matter. The area supports low plant production with mostly annuals and a few perennials plants.		
NI	Livestock Grazing	The Proposal would have a negligible effect on current livestock management in the Buckmaster allotment. The project site represents only a fraction of 1 AUM, animal unit month, of the total forage within the allotment. The soils have very low levels of organic matter and do not produce high forage plant species. The immediate area has no permanent water supply and monitoring data studies show that cattle only transition through the area to other sites with more forage.	Ray Jenson	7/27/11
NP	Woodland / Forestry	No woodland or forestry present.	Karl Ivory	7/25/11
PI	Vegetation	In the natural condition the project area is expected to be sparsely vegetated. However the proposed project area has already been disturbed and exposed piles of mine waste are on the surface, thus vegetation is very minimal. Without implementation of an approved reclamation plan vegetation loss could be long-term.	Dana Truman	7/29/11
NP	Special Status Plant Species other than FWS candidate or listed species	Current inventory shows no special status plant species within the project area.	Karl Ivory	7/25/11
NP	Fish and Wildlife (e.g., big game)	There are no crucial wildlife habitats within the Project Area. Effects on other wildlife species would be negligible based on lack of suitable habitat.	David L. Waller	7/25/11
NI	Special Status Species fish and wildlife other than FWS candidate or listed species (e.g., migratory birds)	There is potential for special status species bats within the existing inclined adit. Implementation of the project could result in a temporary disturbance to any bats that would be present. There are other unused adits in the vicinity that the bats could move to while operations are under way, so there would be very miniscule impacts on bats from the project.	David L. Waller	7/25/11
PI	Soils	There is a potential to modify, mix, and compact the soil resource.	Dana Truman/Jeffrey Brower	7/29/11
NI	Recreation	The proposed action is in an area (Extensive Recreation Management Area) where recreation opportunities and problems are limited and explicit recreation management is not required. Minimal management actions related to the BLM's stewardship responsibilities are adequate in these areas. Implementation of the project would have minimal impact on dispersed recreation in the ERMA.	Kathryn Lloyd	08.04.11
NI	Visual Resources	The proposed project area is within a Visual Resource Management Class III, allowing for the level of change to the characteristic of the landscape to be moderate. Implementation of the proposed project would have an impact to the landscape but would not exceed the Visual Resource Management Class III objectives.	Kathryn Lloyd	08.04.11

Determi-nation	Resource	Rationale for Determination*	Resource Specialist	Date
NI	Geology / Mineral Resources/Energy Production	This is an appropriate use of the natural resources. A goal of the RMP, as stated on page 123, is to, "Provide opportunities for mineral exploration and development under the mining and mineral leasing laws subject to legal requirements to protect other resource values," and, "Provide mineral materials needed for community and economic purposes." Management Decision MLO-3 states: "Locatable minerals will be managed according to the 43 CFR 3809 Surface Management regulations and 43 CFR 3715 Use and Occupancy regulations.	Chris Conrad	7/7/11
NI	Paleontology	Generally, where surface disturbance would occur in either the Morrison or Cedar Mountain Formation outcrops, PFYC-5 (Potential Fossil Yield Classification-Highest), the operator needs to have a BLM/Utah-permitted paleontologist present for both the pre-work survey and any surface disturbing activities. However, since the proposal does not disturb additional surface deposits, then the proposal will not affect paleontological resources to a degree that detailed analysis is required.	Chris Conrad for Michael Leschin	7/25/11
NI	Land /Access	There are no other Right-of-Ways that need to be considered in the project area.	Connie Leschin/Amanda Harrington	7/29/11
NP	Fuels/Fire Management	Fuels/fire management would not be impacted due to lack of continuous fuels in the area.	Dana Truman	7/29/11
NP	Socioeconomics	It is anticipated that the proposed project would not have any measurable impacts to the overall socio-economics of the area.	Chris Conrad??? Donna?	7/26/11
NP	Wild Horses and Burros	The project area is not within an HMA.	Mike Tweddell	7/26/11
NP	BLM Natural Areas	There are no BLM Natural Areas within the Project Area.	Tom Gnojeck	7/26/11
NI	Safety	Uranium and uranium by-products deserve special consideration regarding both extraction and transportation because of their radiological make-up; however, these concerns are satisfied by conforming to MSHA, OSHA, and UDOT regulations which are part of the proposal.	Jeffrey Brower	7/27/11

FINAL REVIEW:

Reviewer Title	Signature	Date	Comments
NEPA / Environmental Coordinator	Dawn Davis	9/9/11	
Authorized Officer	Patricia A. Claborn	9-19-2011	

Appendix B- Maps and Photos

Map - Index and Base Map

Figure 1 **Kimmerle Green River #9**
Small-Scale Location Map-1

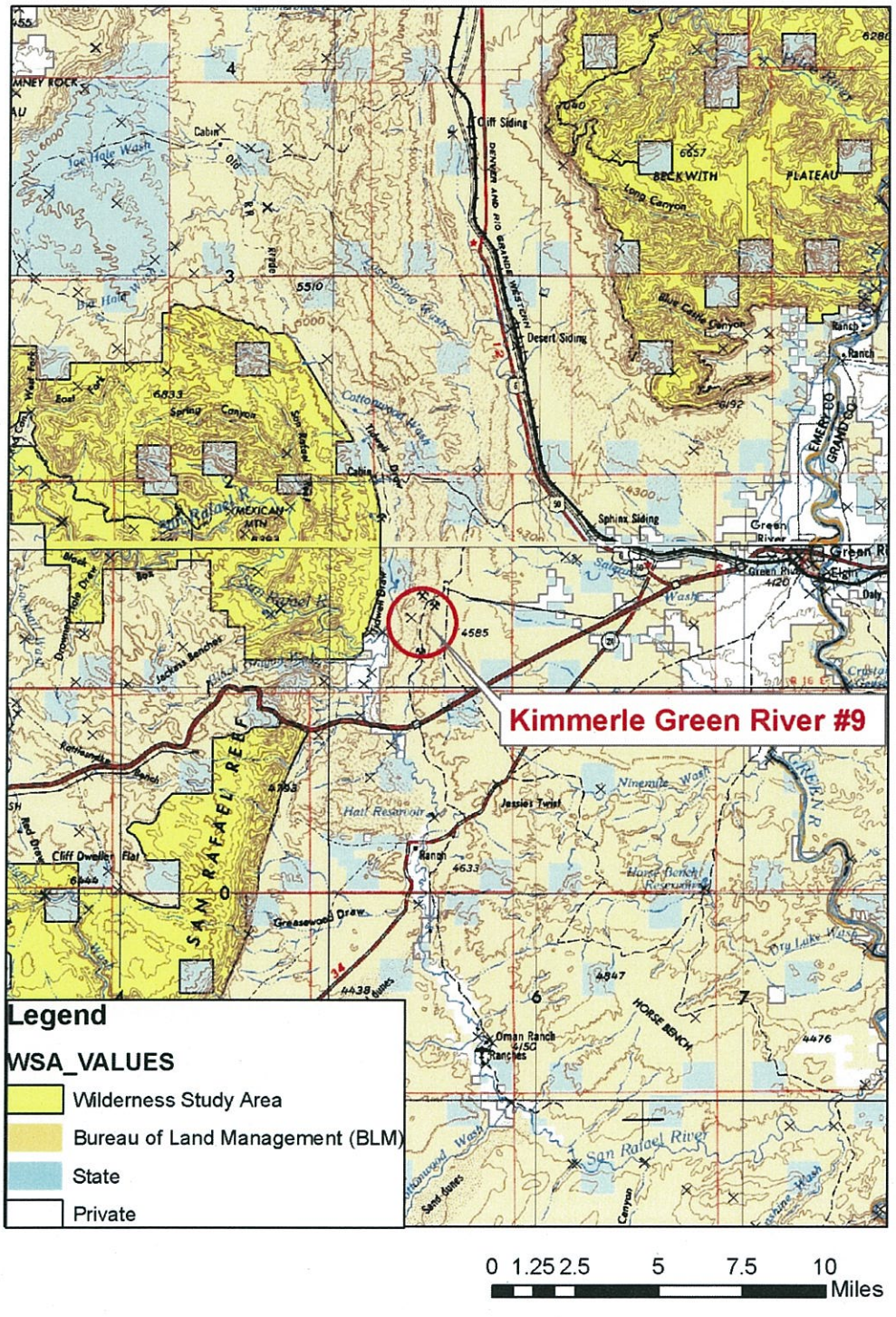


Figure 2 Kimmerle Green River #9 Location Map-2

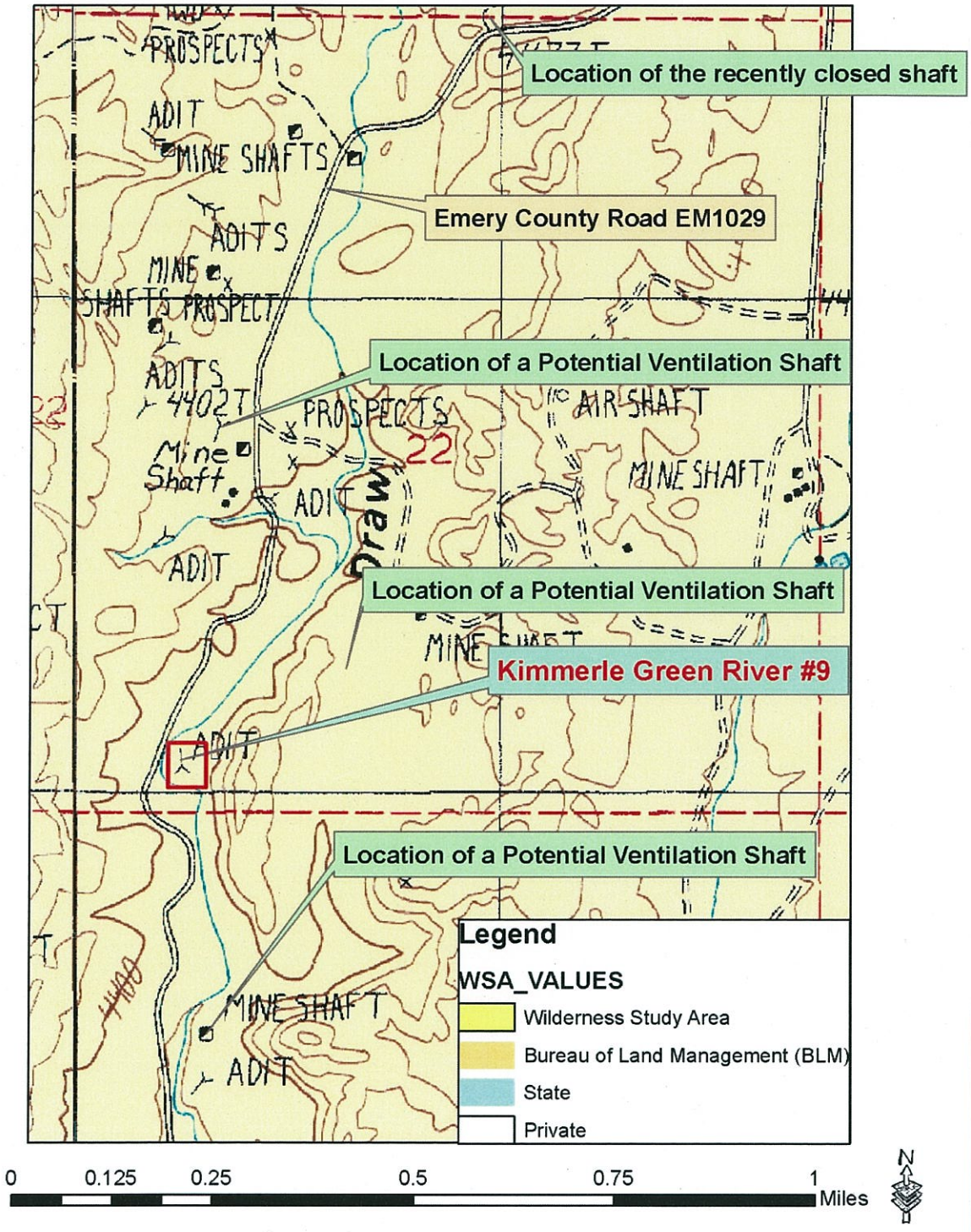


Figure 3 Trucking Route Map for Kimmerle Green River #9

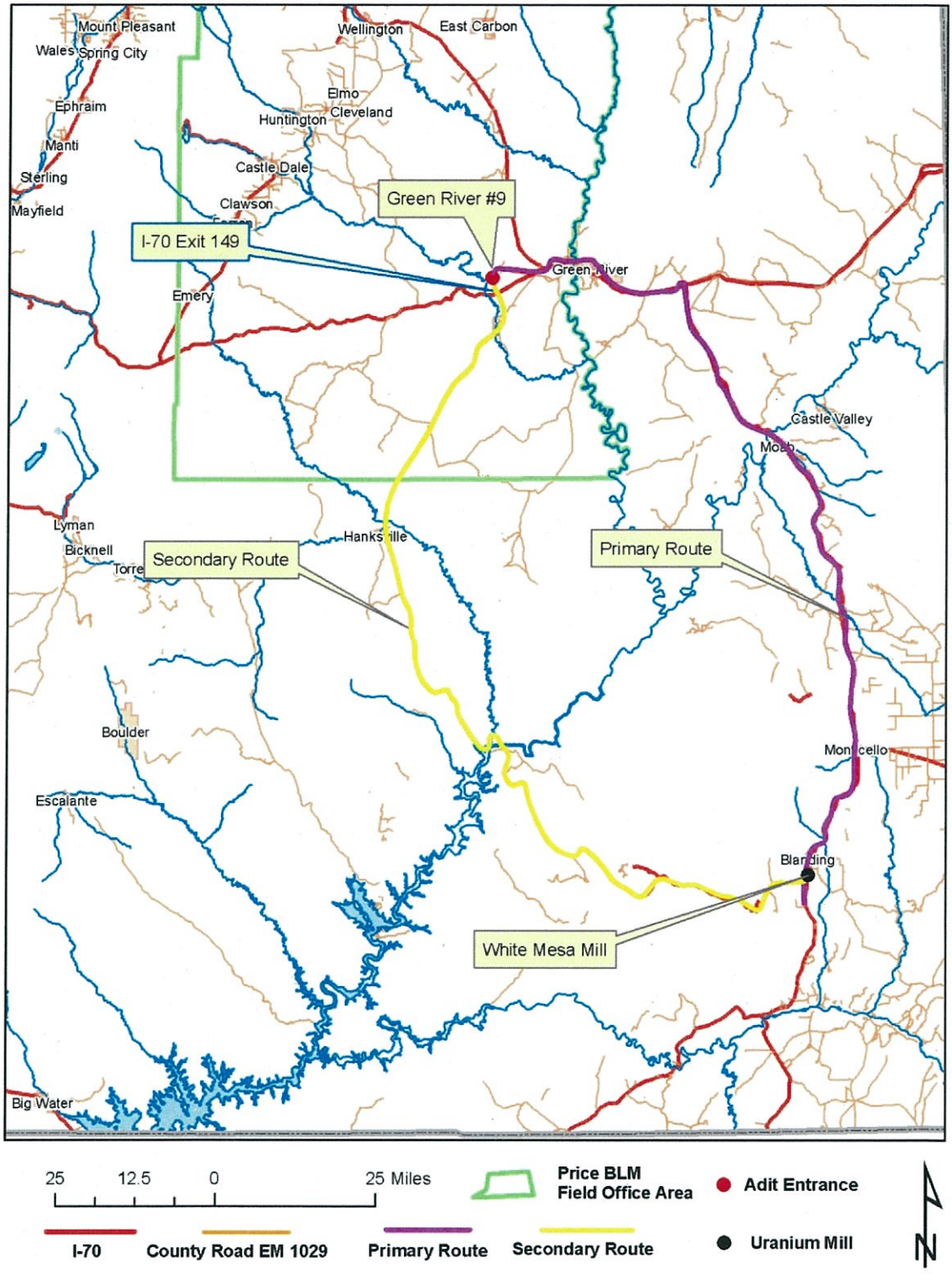


Figure 4 Kimmerle Green River #9 Plan of Operations

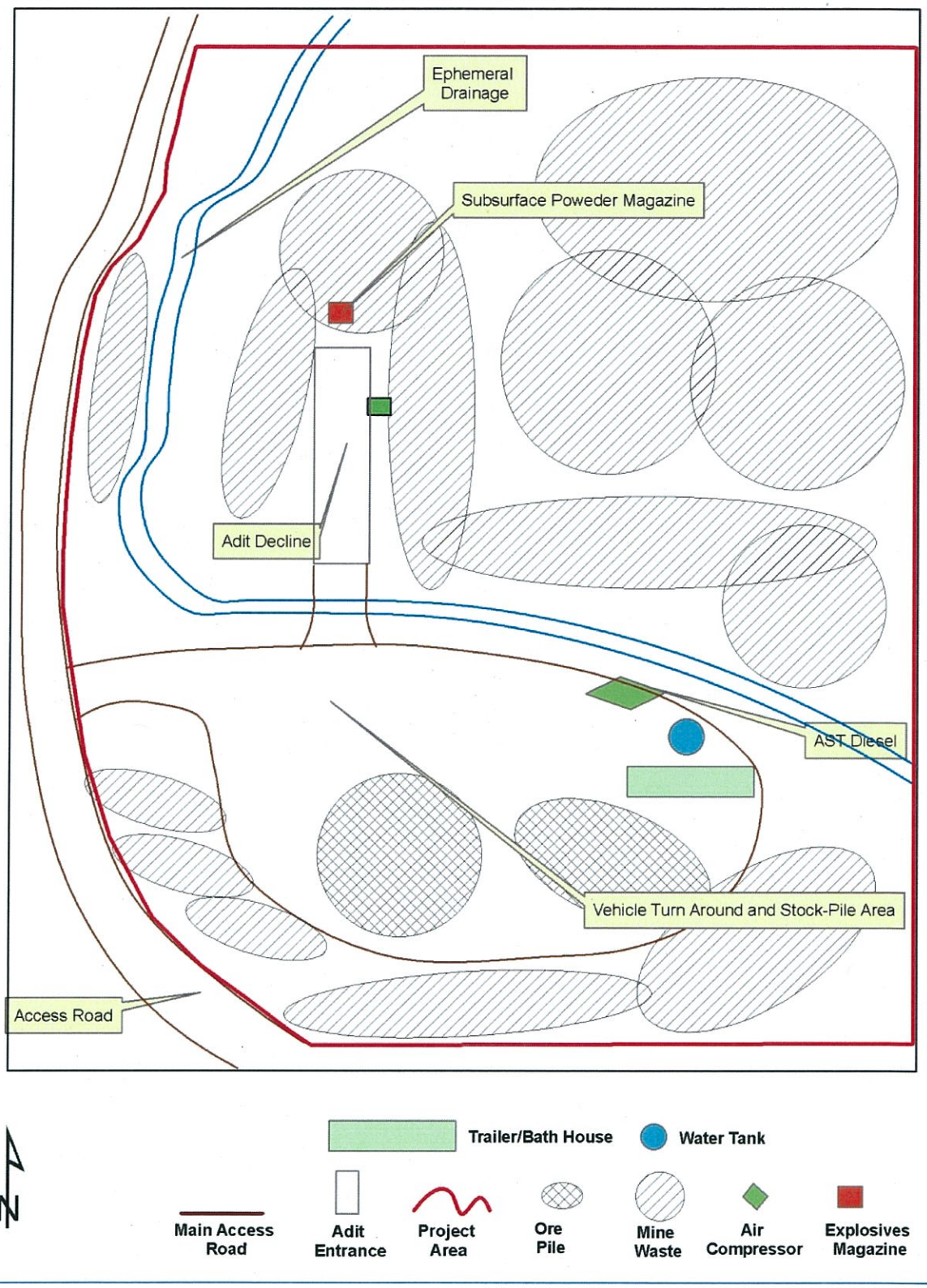


Figure 5

Figure 5 Kimmerle adit looking north. Decline is approximately 100 feet to the gated entrance. The entrance has been cleaned to allow for their Notice level operation. Note the surrounding fence, lack of vegetation, and the waste piles surrounding the adit entrance.

Figure 6

Figure 6 Kimmerle Green River #9 mine site, looking south. Note the ten feet deep drainage crossing the property and the vintage diesel storage tank present.

Figure 7

Figure 7 View looking south at the ephemeral drainage from the decline. Note the water flow. During the spring run-off low flow is generated for short amounts of time. The drainage is dry more than 300 days per year.

Figure 8

Figure 8 is a close up of the adit entrance. The gate is open, made of steel, and is lockable. The old gate material is shown on the left side of the photo.

Appendix C Radiation Survey Map

Radiation Map Kimmerle- Green River #9